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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,506	02/22/2002	David G. McLeod	1062-013	9970
7590	06/16/2004			EXAMINER
Scott A. Chapple Dobrusin & Thennisch PC Suite 311 401 South Old Woodward Avenue Birmingham, MI 48009			OMGBA, ESSAMA	
			ART UNIT	PAPER NUMBER
			3726	
DATE MAILED: 06/16/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/081,506	MCLEOD ET AL.
	<b>Examiner</b> Essama Omgba	<b>Art Unit</b> 3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 May 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-18,20 and 21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-18,20 and 21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/26/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 26, 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (US patent 6,493,920) in view of Miyazaki et al. (US Patent 4,883,310) and Wandiez (US Patent 6,409,947).

With regards to claims 1 and 5, Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having at least one edge, a transparent panel 62 having a bottom edge adapted for attachment to a body of the automotive vehicle during assembly of the automotive vehicle, and a top edge that is

secured to the roof portion adjacent the at least one edge of the roof portion wherein the transparent panel is a windshield, and assembling the roof module to a body portion of the automotive vehicle, see column 2, lines 43-62. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion and the roof portion including a roof panel with a foam-in-place headliner. However it is known to adhesively secure a windshield to an edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., in order to impart additional structural integrity to the automobile body. Furthermore it is known to use foam-in-place headliners as attested by Wandiez, see column 5, lines 62-67, column 6, lines 1-55. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a roof portion including a roof panel and a foam-in-place headliner to the roof module of Hill et al./Miyazaki, in light of the teachings of Wandiez, in order to reduce the amount of parts and complexity introduced to an automotive assembly plant.

For claim 3, see column 2, line 18 of Hill et al. and column 4, lines 45-48 of Miyazaki et al.

For claim 4, see column 2, lines 58-62 of Hill et al.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. in view of Miyazaki and Johnston (US patent 4,712,287).

Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having at least one edge, a transparent panel 62 having a bottom edge adapted for attachment to a body of the automotive vehicle during assembly of the automotive vehicle, and a top edge that is secured to the roof portion adjacent the at least one edge of the roof portion wherein the transparent panel is a windshield, and assembling the roof module to a body portion of the automotive vehicle, see column 2, lines 43-62. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion and the windshield including an encapsulation covering at least a portion of one of the edges of the windshield. However it is known to adhesively secure a windshield to an edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., in order to impart additional structural integrity to the automobile body. Furthermore it is known to use gaskets to encapsulate the peripheral edge of a windshield in order to provide a seal against the intrusion of between the windshield and the frame of the vehicle in which it is installed as attested by Johnston, see column 5, lines 12-16. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have included an encapsulation covering with the windshield of Hill et al./Miyazaki, in light of the teachings of Johnston, in order to provide a seal

against the intrusion of between the windshield and the frame of the vehicle in which it is installed.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al./Miyazaki as applied to claim 1 above, and further in view of Meritor Automotive (February 2000).

Hill et al./Miyazaki et al. discloses a method of assembling a roof module to an automotive vehicle as shown above except for the roof portion including at least one vehicle impact counter measure. However Meritor Automotive teaches head area air bags as integrated components of a roof module, see page titled "Integrated components". Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the roof portion of Hill et al./Miyazaki et al. with head area air bags, in light of the teachings of Meritor Automotive, for increased protection of the vehicle's occupants.

6. Claims 8-10, 13 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. in view of Miyazaki and Hsieh (US Patent 5,115,086).

With regards to claims 8, 9, 13 and 16, Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having a forward edge, a rearward edge, a pair of side edges and a pair of A-pillars 52 extending adjacent opposing corners of the roof portion, and a windshield 62 having a top edge, a bottom edge and a pair of side edges wherein the top edge of the wind shield is secured to the roof portion adjacent the forward edge of the roof portion and the side edges of

the windshield are secured to the A-pillars, the bottom edge is configured for attachment to a body portion of the automotive vehicle upon assembly of the roof module to the automotive vehicle, and the A-pillars and the body portion of the vehicle include corresponding mating structures (56, 40) for assisting in assembling the roof module to the body portion of the vehicle, and assembling the roof module to the body portion of the vehicle by matingly fitting the mating structures of the A-pillars and the mating structures of the body portion and by adhesively securing the windshield to the body portion of the vehicle, see column 2, lines 18-27 and 43-67, column 3, lines 1-7 and figure 2. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion. However it is known to adhesively secure a windshield to an edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., as is conventional in the art. Although Hill et al./Miyazaki et al. does not disclose the adhesive as being a urethane adhesive, however it is known to use a urethane adhesive in bonding a windshield to an auto body as attested by Hsieh, see column 1, lines 13-19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a urethane adhesive in the method of Hill et al./Miyazaki et al., in view of the teachings of Hsieh, in order to impart additional structural integrity to the auto body.

For claim 10, see column 1, lines 21-25 of Hsieh.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. in view of Miyazaki, Hsieh and Allen et al. (US Patent 6,423,755).

1. Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having a forward edge, a rearward edge, a pair of side edges and a pair of A-pillars 52 extending adjacent opposing corners of the roof portion, and a windshield 62 having a top edge, a bottom edge and a pair of side edges wherein the top edge of the wind shield is secured to the roof portion adjacent the forward edge of the roof portion and the side edges of the windshield are secured to the A-pillars, the bottom edge is configured for attachment to a body portion of the automotive vehicle upon assembly of the roof module to the automotive vehicle, and the A-pillars and the body portion of the vehicle include corresponding mating structures (56, 40) for assisting in assembling the roof module to the body portion of the vehicle, and assembling the roof module to the body portion of the vehicle by matingly fitting the mating structures of the A-pillars and the mating structures of the body portion and by adhesively securing the windshield to the body portion of the vehicle, see column 2, lines 18-27 and 43-67, column 3, lines 1-7 and figure 2. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion. However it is known to adhesively secure a windshield to an edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the

roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., as is conventional in the art. Although Hill et al./Miyazaki et al. does not disclose the adhesive as being a urethane adhesive, however it is known to use a urethane adhesive in bonding a windshield to an auto body as attested by Hsieh, see column 1, lines 13-19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a urethane adhesive in the method of Hill et al./Miyazaki et al., in view of the teachings of Hsieh, in order to impart additional structural integrity to the auto body. Furthermore roof portions including a roof rail assembly having structural foam disposed therein are known as attested by Allen et al., see column 12, lines 37-43. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided structural foam to the roof rail of the roof portion of Hill et al./Miyazaki/Hsieh, in light of the teachings of Allen et al., in order to structurally stiffen the roof rails.

8. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al./Miyazaki/Hsieh as applied to claim 9 above, and further in view of Bergholz et al. (US Patent 6,151,539).

Hill et al./Miyazaki et al./Hsieh discloses a method of assembling a roof module to an automotive vehicle as shown above except for the roof portion including at least a portion of a global positioning system. However Bergholz et al. teaches a global positioning system mounted on the roof of a vehicle, see column 6, lines 34-36. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have included a global positioning system in the roof of Hill et

al./Miyazaki et al./Hsieh, in light of the teachings of Bergholz et al., in order to achieve high precision finding while driving the vehicle.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. in view of Miyazaki, Hsieh and Johnston.

Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having a forward edge, a rearward edge, a pair of side edges and a pair of A-pillars 52 extending adjacent opposing corners of the roof portion, and a windshield 62 having a top edge, a bottom edge and a pair of side edges wherein the top edge of the wind shield is secured to the roof portion adjacent the forward edge of the roof portion and the side edges of the windshield are secured to the A-pillars, the bottom edge is configured for attachment to a body portion of the automotive vehicle upon assembly of the roof module to the automotive vehicle, and the A-pillars and the body portion of the vehicle include corresponding mating structures (56, 40) for assisting in assembling the roof module to the body portion of the vehicle, and assembling the roof module to the body portion of the vehicle by matingly fitting the mating structures of the A-pillars and the mating structures of the body portion and by adhesively securing the windshield to the body portion of the vehicle, see column 2, lines 18-27 and 43-67, column 3, lines 1-7 and figure 2. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion. However it is known to adhesively secure a windshield to an edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., as is conventional in the art. Although Hill et al./Miyazaki et al. does not disclose the adhesive as being a urethane adhesive, however it is known to use a urethane adhesive in bonding a windshield to an auto body as attested by Hsieh, see column 1, lines 13-19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a urethane adhesive in the method of Hill et al./Miyazaki et al., in view of the teachings of Hsieh, in order to impart additional structural integrity to the auto body. Furthermore it is known to use gaskets to encapsulate the peripheral edge of a windshield in order to provide a seal against the intrusion of between the windshield and the frame of the vehicle in which it is installed as attested by Johnston, see column 5, lines 12-16. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have included an encapsulation covering with the windshield of Hill et al./Miyazaki, in light of the teachings of Johnston, in order to provide a seal against the intrusion of between the windshield and the frame of the vehicle in which it is installed.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al./Miyazaki/Hsieh as applied to claim 9 above, and further in view of Meritor Automotive (February 2000).

Hill et al./Miyazaki et al./Hsieh discloses a method of assembling a roof module to an automotive vehicle as shown above except for the roof portion including at least

one vehicle impact counter measure. However Meritor Automotive teaches head area air bags as integrated components of a roof module, see page titled "Integrated components". Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided the roof portion of Hill et al./Miyazaki et al./Hsieh with head area air bags, in light of the teachings of Meritor Automotive, for increased protection of the vehicle's occupants.

11. Claims 17, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. in view of Miyazaki, Hsieh, Bhat et al. (US Patent 6,133,398) and Lumpe et al. (US Patent 6,592,176).

With regards to claims 17, 18 and 20, Hill et al. discloses a method of assembling a roof module 14 to an automotive vehicle, the method comprising providing the roof module 14 wherein the roof module includes a roof portion 60 having a forward edge, a rearward edge, a pair of side edges and a pair of A-pillars 52 extending adjacent opposing corners of the roof portion, and a windshield 62 having a top edge, a bottom edge and a pair of side edges wherein the top edge of the wind shield is secured to the roof portion adjacent the forward edge of the roof portion and the side edges of the windshield are secured to the A-pillars, the bottom edge is configured for attachment to a body portion of the automotive vehicle upon assembly of the roof module to the automotive vehicle, and the A-pillars and the body portion of the vehicle include corresponding mating structures (56, 40) for assisting in assembling the roof module to the body portion of the vehicle, and assembling the roof module to the body portion of the vehicle by matingly fitting the mating structures of the A-pillars and the mating

structures of the body portion and by adhesively securing the windshield to the body portion of the vehicle, see column 2, lines 18-27 and 43-67, column 3, lines 1-7 and figure 2. Hill et al. does not disclose the top edge of the windshield being adhesively secured to the roof portion adjacent the forward edge of the roof portion. However it is known to adhesively secure a windshield to and edge of a roof portion as attested by Miyazaki et al., see column 4, lines 45-48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have adhesively secured the top edge of the windshield to the roof portion in the method of Hill et al., in light of the teachings of Miyazaki et al., as is conventional in the art. Although Hill et al./Miyazaki et al. does not disclose the adhesive as being a urethane adhesive, however it is known to use a urethane adhesive in bonding a windshield to an auto body as attested by Hsieh, see column 1, lines 13-19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a urethane adhesive in the method of Hill et al./Miyazaki et al., in view of the teachings of Hsieh, in order to impart additional structural integrity to the auto body. Furthermore it is known to use adhesives having an elongation that is greater than about 300 percent in bonding an automobile windshield to the windshield frame as attested by Bhat et al., see column 1, lines 14-21, column 14, lines 62-67 and column 15, lines 1-10. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an adhesive having an elongation that is greater than about 300 percent in the method of Hill et al./Miyazaki et al./Hsieh, in light of the teachings of Bhat et al., in order to shorten production time. Although Hill et al./Miyazaki/Hsieh/Bhat

et al. does not disclose connecting the roof portion of the vehicle to a pair of B-pillars and to a pair of C-pillars of the automotive vehicle body, however such connection of the roof module to the vehicle body is known as attested by Lumpe et al., see column 1, lines 41-54, column 2, lines 1-9 and 27-67, and column 3, lines 1-8. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have connected the roof portion of Hill et al./Miyazaki/Hsieh/Bhat et al. to a pair of B-pillars and a pair of C-pillars, in light of the teachings of Lumpe et al., in order to provide additional stiffening of the body of the vehicle.

For claim 21, Official Notice is taken in that it is known to assemble a roof module in one area and assemble it to a body portion of an automotive vehicle in another area.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1, 2-7, 9,11, 14 and 17 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgbia whose telephone number is (703) 305-2915. The examiner can normally be reached on M-F (10-7:30) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

eo  
June 13, 2004

A handwritten signature in black ink, appearing to read "Peter Vo".